

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN DIEGO REGION

ORDER NO. 85-10  
NPDES PERMIT NO. CA0001350

WASTE DISCHARGE REQUIREMENTS

FOR

SAN DIEGO GAS & ELECTRIC COMPANY  
ENCINA POWER PLANT  
SAN DIEGO COUNTY

The California Regional Water Quality Control Board (hereinafter Regional Board), finds that:

1. On June 14, 1976, the Regional Board adopted Order No. 76-22, NPDES Permit No. CA 0001350, Waste Discharge Requirements for San Diego Gas and Electric Company, Encina Power Plant, San Diego County. Order 76-22 established waste discharge requirements for a combined discharge flow volume of 860.296 million gallons per day (MGD) of cooling water and other waste discharges from the Encina Power Plant to the Pacific Ocean, a water of the United States. Order No. 76-22 contained an expiration date of June 14, 1981, but was administratively extended until the Environmental Protection Agency (EPA) issued its effluent limitation guidelines and standards for the steam electric point source category.
2. On June 27, 1977 the Regional Board adopted Order No. 77-28, An Order for Issuance of an Interim Time Schedule for San Diego Gas and Electric Company Encina Power Plant, San Diego County. Order 77-28 established a time schedule for the San Diego Gas and Electric Company to achieve compliance with the requirements of Effluent Limitation A.2 (Metal Cleaning Wastes), A.3 (Boiler Blowdown), and A.4 (Low Volume Wastes) of Order No. 76-22. In Order No. 77-28, the San Diego Gas and Electric Company was required to achieve full compliance with the Effluent Limitations of Order No. 76-22 by September 1, 1978.
3. On September 12, 1977, this Regional Board adopted Addendum No. 1 to Order No. 77-28, An Addendum Extending the Time Schedule Issued in Order No. 77-28 for the San Diego Gas and Electric Company Encina Power Plant, San Diego County. Addendum No. 1 extended the expiration date of Order No. 77-28 from September 27, 1977 to November 30, 1977 to allow time for resolution of potential pending conflicts in policy determinations between the Environmental Protection Agency and the State Board with respect to enforcement of time schedule violations by certain industrial dischargers.
4. On November 28, 1977, this Regional Board adopted Addendum No. 2 to Order No. 77-28, An Addendum Further Extending the Time Schedule Issued in Order No. 77-28 for the San Diego Gas and Electric Company Encina Power Plant, San Diego County. Addendum No. 2 extended the expiration date of Order No. 77-28 from November 30, 1977 to January 31, 1978.

5. On January 23, 1978, the Regional Board adopted Addendum No. 3 to Order No. 77-28, An Addendum Further Extending the Time Schedule Issued in Order No. 77-28 for the San Diego Gas and Electric Company Encina Power Plant, San Diego County. Addendum No. 3 extended the expiration date of Order No. 77-28 to April 30, 1978.
6. On April 10, 1978 the Regional Board adopted Addendum No. 4 to Interim Order No. 77-28, An Addendum Finalizing and Revising the Time Schedule Issued in Order No. 77-28 for the San Diego Gas and Electric Company Encina Power Plant, San Diego County. Addendum No. 4 specified that the requirements of Effluent Limitation A.2 (Metal Cleaning Wastes) of Order No. 76-22 would be effective immediately. Addendum No. 4 also specified that the low volume wastes (Effluent Limitation A.4 of Order No. 76-22) would receive partial treatment in accordance with the San Diego Gas and Electric Company's commitment to provide settling time for these wastes prior to discharge. Addendum No. 4 to Order 77-28 also extended the expiration date of Interim Order No. 77-28 to December 31, 1978.
7. On December 8, 1980, Mr. D. W. Gilman, Vice President - Power Supply, San Diego Gas and Electric Company (SDG&E) submitted a Report of Waste Discharge in application for renewal of the existing NPDES Permit for the discharge to the Pacific Ocean.
8. The San Diego Gas & Electric Encina Power Plant is located at 4600 Carlsbad Boulevard, in the southwest sector of the City of Carlsbad, California, adjacent to the Agua Hedionda Lagoon on the Pacific Ocean. The Encina Power Plant is in Section 18, T12S, R4W, SBBM.
9. A Form 2C Permit Application was submitted to EPA by SDG&E for the Encina Power Plant on December 8, 1980. Table 1 summarizes the analytical data for those toxic pollutants detected in the effluent at concentrations greater than the intake concentrations. The 2C scan for Encina indicates that none of the hazardous chemicals stored at the facility are present in the effluent. However, this scan shows an increase in zinc from 8 ug/l to 13 ug/l, an increase in aluminum from 75 ug/l to 100 ug/l, an increase in mercury from 0.20 ug/l to 1.60 ug/l, and an increase in lead from <1.00 ug/l to 2.00 ug/l when influent and effluent concentrations for those constituents are compared.

TABLE 1

## ENCINA FORM 2C

Effluent Toxic Pollutant Data

Pollutant	Units	Influent Concentration	Effluent Concentration
Bromide	mg/l	77.00	81.00
Oil & Grease	mg/l	0.34	2.80
Phosphorous	mg/l	0.27	0.67
Sulphate	mg/l	2115.00	2280.00

Table 1  
(Continued)

Pollutant	Units	Influent Concentration	Effluent Concentration
Aluminum	ug/l	75.00	100
Boron	mg/l	2.70	3.70
Iron	ug/l	390.00	552.00
Lead	ug/l	<1.00	2.00
Mercury	ug/l	0.20	1.60
Zinc	ug/l	8.00	13.00
Bromoform	ug/l	ND	<10.00

10. The Encina Power Plant has five steam turbine generators and one gas turbine generator. The first four units burn primarily gas but are capable of conversion to fuel oil should economic conditions necessitate. Unit 5 is oil fueled only. All units operate independently, but share the once-through cooling water system. The table below summarizes each unit's capacity and start up date.

Unit	Date on Line	Capacity
1	1954	100 MW
2	1956	102 MW
3	1958	108 MW
4	June 1973	287 MW
5	November 1978	430 MW
Gas Turbine	1968	20 MW
Total Plant Capacity		937 MW

The total rated net generating capability of the Encina Power Plant is 937 MW, and there are no plans for major modifications in the capacity of the plant in the near future.

11. At full capacity the total estimated water usage at the Encina Power Plant is 858.70 MGD of which 99.81 percent is once through cooling water obtained from the Pacific Ocean. The balance of the service water is obtained from the municipal

water supply. Seepage and ground water pumping account for over 1.6 MGD in additional plant flow.

Cooling water is withdrawn from the Pacific Ocean via the Agua Hedionda Lagoon. After passing through the intake structure, trash racks and traveling screens, the water is pumped through the condensers. The amount of cooling water required is dependent upon the number of units in operation. The heated water is discharged to the Pacific Ocean after passing through a discharge pond.

12. A more detailed breakdown of water use at the Encina Power Plant is tabulated below:

Waste Stream	Flow (Gallons Per Day)
(a) Once-Through Cooling Water	857,088,000
(1) Condenser cooling	
(2) Circulating water pump lubrication	
(b) Cooling Water Pump Lubrication	144,000
(c) Low Volume Wastes	2,266,500
(1) Boiler blowdown	
(2) Evaporator blowdown	
(3) Sample drains	
(4) Floor drains	
(5) Demineralizer	
(6) Softeners	
(7) Dealkalizer	
(8) Condenser cleaning	
(9) Reverse osmosis	
(d) Metal Cleaning Wastes	797,100
(1) Boiler chemical cleaning	
(2) Hypochlorinator chemical cleaning	
(3) Evaporator chemical cleaning	
(4) Air heater wash	
(5) Boiler wash	
(e) Boiler Feedwater	57,000
(1) Steam atomization	
(2) Tube blowing	
(f) Sanitary Sewer	5,000

The above information is also diagramed in a water flow schematic prepared by SDG&E and is presented in Attachment A of this Order. The total combined discharge to the Pacific Ocean of 860,295,600 gallons/day represents the total flows of: once-through cooling water, cooling water pump lubrication, low volume wastes and metal cleaning wastes. Sanitary wastes are discharged to the sewerage system for treatment and disposal. Boiler feedwater is vented to the atmosphere after steam atomization. Thus, sanitary waste and boiler feedwater (12e) flow rates are not included in the total combined discharge flow to the Pacific Ocean.

13. The mouth of the Agua Hedionda Lagoon is the beginning of the power plant water intake system. The cooling water intake structure complex is located approximately 2200 feet from the ocean inlet to the lagoon. Variations in the water surface due to tide are from a low of -5.07 feet to a high of +4.83 feet (elevation 0 being mean sea level, msl). The intake structure is located on the lagoon, about 525 feet in front of the generating units.
14. Floating booms are situated in the lagoon in front of the circulating-water intake structure to retain large floating material washed in from the ocean. The mouth of the intake structure is 49 feet wide. As the water flows into the intake structure, it passes through trash racks (metal bars about 3-1/2 inch apart) which prevent passage of large debris. The tunnel tapers into two 12-foot wide intake tunnels. From these tunnels, the cooling water enters four six-foot wide conveyance tunnels. Cooling water for conveyance tunnels 1 and 2 passes through two vertical traveling screens to prevent fish, grass, kelp, and debris from entering pump intakes 1, 2, and 3. Conveyance tunnels 3 and 4 carry cooling water to intake 4 and intake 5, respectively. Traveling water screens are located at the intake of pump 4 and the intake of pump 5.
15. Each pump intake consists of two circulating water pump cells and one or two service pump cells. During normal operation, one circulating water pump serves each half of the condenser, so when a unit is on line, both pumps are in operation. The rated capacities (nameplate) of the cooling water pumps for each unit are listed below:

Unit 1	-	48,000 gpm
Unit 2	-	48,000 gpm
Unit 3	-	48,000 gpm
Unit 4	-	200,000 gpm
Unit 5	-	208,000 gpm
Total		552,000 gpm

16. Separate salt water service pumps supply cooling water to heat exchangers, where heat is transferred from the service (fresh) water that cools the lubricating bearing oil and other auxiliary equipment. The capacities of the salt water service pumps are:

Units 1, 2	-	6,000 gpm (3,000 gpm, each)
Unit 3	-	6,000 gpm
Unit 4	-	13,000 gpm
Unit 5	-	18,200 gpm
Total		43,200 gpm

With all cooling water pumps operating (552,000 gpm) and all salt water heat exchangers operating (43,200 gpm), the total plant flow is 595,200 gpm.

17. The velocity of the water as it approaches the traveling water screens varies with unit operation, water level, and cleanness of the screens. Calculated maximum velocities, in feet per second, at high and low tides with 100 percent clean screens are presented in the table below:

Unit	High Tide (+4.83)	Low Tide (-5.07)
1	0.7 fps	1.2 fps
2	0.7 fps	1.2 fps
3	0.7 fps	1.2 fps
4	1.0 fps	1.6 fps
5	0.7 fps	1.1 fps

18. The seven traveling screens remove debris which passes through the trash racks. The screens are conventional through-flow, vertically rotating, single entry, band-type screens, mounted in the screen wells of the intake channels. Each screen consists of a series of baskets or screen panels attached to a chain drive. Since the screens are designed to prevent the passage of particles large enough to clog the condenser tubes, the screening surface is made of 3/8-inch meshed stainless steel wire, with the exception of Unit 5 screens, which have 5/8-inch square openings. Cooling water passes through the wire mesh screening surface and floating or suspended matter is retained on the screens. The screens rotate automatically when the debris buildup causes a predetermined pressure differential across the screen (or the difference in sea water level before and after the screen increases to a set level). As the screens revolve, the material is lifted from the intake water surface by the upward travel of the baskets. The screens travel 3 feet per minute, making one complete revolution in about 20 minutes. A screen wash system in the traveling screen structure provides water (sea water from the intake tunnel) to wash the debris from the traveling screen. At the head of the screen, matter is removed from the baskets by a 70-100 psi spray of water, which is evenly distributed over the entire basket width. The jet spray washes the material into a trough feeding into screen well baskets where it is accumulated for disposal. Traveling water screens normally

are set on automatic, starting up when the differential pressure across the screen exceeds the set point. At the beginning of each work shift (0700, 1500, and 2300 hours), the screens are turned on and the automatic start is checked to ascertain they are functioning properly.

19. Each unit has two vertical submerged circulating (cooling water pumps, one for each condenser half. Each pump is located in a pump structure, draws water in through the traveling water screen, and discharges to the condenser half. Circulating water pumps for Units 1, 2, and 3 rotate at 390 rpm; for Unit 4, at 254 rpm; and Unit 5, 271 rpm. The pumps which circulate the cooling water have rubber bearings. These bearings are lubricated with fresh water. The lubricating flow also acts as a seal to prevent saltwater intrusion.
20. The condenser is a shell-and-tube arrangement in which heat is transferred from the turbine exhaust steam to the circulating (cooling) water. Units 1, 2, and 3 have two-pass condensers (water enters the bottom, passes through the condenser twice, and exits the top). The tubing, made of No. 18 BWG aluminum brass, has a 30-foot length and a 1-inch outside diameter. Units 4 and 5 condensers are single-pass design. The tubing is No. 20 BWG copper-nickel with a 36-foot length and 1 1/8-inch outside diameter. The heat transfer area is 103,200 ft<sup>2</sup> and 105,000 ft<sup>2</sup> for Unit 4 and Unit 5, respectively.
21. Units 1 through 5 will transfer  $4805 \times 10^6$  Btu/hr (British Thermal Units approximate maximum limits) to 595,200 gpm of circulating water with a plant temperature rise of 17.9°F with all units operating at maximum load. The temperature rise may vary depending on the Units in service. A maximum of 20°F may be experienced under certain conditions. Heated water discharges from the condensers through separate discharge pipes to a common discharge tunnel.
22. Cooling water from the condensers of all five units flows into a common discharge tunnel. The concrete discharge tunnel (15 feet wide) runs along the east side of the inlet conveyance tunnels, past the traveling screen structures, then crosses under the inlet tunnels and runs parallel to the west side. The cooling water flows into a discharge pond before traveling through box culverts under Carlsbad Boulevard into a riprap-lined channel, a surface jet discharge, into the Pacific Ocean. The coordinates of the plant discharge are 32°-57'-45" North latitude and 117°-16'-05" West longitude.
23. Intermittent chlorine treatment is used to minimize formation of slime, which occurs in the tubes if control is not practiced. At the Encina Power Plant, sodium hypochlorite is manufactured on-site as needed. It is produced electrolytically from sodium chloride in the seawater. Seawater from the intake is pumped through each of the two hypochlorinators, which are comprised of electrolytic cell modules arranged in series. The hypochlorite produced is fed into a holding tank, where it is diluted with intake water. Then the sodium hypochlorite solution is injected into the channel immediately upstream of the circulating and salt water service pump suctions for each unit. Each injection point is individually controlled. Hypochlorination is conducted for about five minutes per hour per unit on a timed cycle each day. The flow of cooling water from the other units will result in minimal chlorine residual in the cooling water being discharged to the ocean. Chlorine (sodium hypochlorite) treatment is conducted intermittently throughout the day.

24. Encrusting organisms in the early stages of development are small enough to pass through the trash racks and screens, and enter the intake tunnels. The encrusting organisms can attach themselves to the tunnel walls, traveling water screens, and other parts of the cooling-water system. If not removed, the encrusting organisms grow and accumulate at a rate of approximately 1000 yd<sup>3</sup> over a 6-month period. These accumulations restrict the flow of cooling water to and through the condensers, causing a rise in the condenser operating temperature and the temperature of the discharged circulating water. A thermal tunnel recirculation treatment process is used periodically (at approximately 5-week intervals) to prevent the encrusting organisms from developing to any significant size or quantity. The treatment kills the encrusting organisms, which release from the surfaces and wash through the condensers to the ocean with the circulating water discharge, reducing the need for maintenance outages for manual cleaning of the circulating water inlet tunnels and condensers. This practice also helps to maintain the lowest possible temperature rise across the condensers, thereby improving plant efficiency.
25. Thermal treatment is performed by restricting the flow of cooling water from the lagoon and recirculating the condenser discharge water through the conveyance tunnels and condensers until an inlet water temperature of approximately 105°F is attained. Approximately 120 feet from the discharge end, a gated tunnel is cross-connected to the intake channel to allow recirculation for periodic heat treatment. Maintaining a temperature of 105°F in the intake tunnels for approximately two hours has proven adequate in disposing of encrusting organisms. The total time required for the thermal treatment operation, including temperature buildup and cooldown, is approximately six hours.
26. Metal cleaning wastewaters include all chemical cleaning wastes, boiler washes and air preheater washes. The volume of metal cleaning wastes produced on an annual basis is dependent upon the number of boiler washes performed. Ordinarily, each steam turbine boiler at the Encina facility would undergo cleaning once in a period of four years. The possibility exists, however, that all five could require cleaning in a single year due to contamination of the water. A boiler wash is performed with a dilute solution of hydrochloric acid (HCL) and Thiurea (a copper complexing agent manufactured by Dow). The boiler to be washed is drained of the water it contains and filled with fresh water, then fired to heat the water and metal up to temperature. When the required temperature is attained, a "fast drain" is done and the warm water is pumped back into the boiler with the chemicals mixed into the water during pumping. At this point the boiler is allowed to sit for six hours with the cleaning solution inside. The temperature is monitored so that if the system cools too quickly it can be drained sooner. After the wash has been given time to work on the deposits, another fast drain is done and the cleaning job is checked to ensure that the deposits have been removed. A rinse cycle follows and samples are taken during the draining. Usually a second and a third rinse is done. The third volume of water contains citric acid. The final volume in the cleaning operation contains phosphate and sodium hydroxide as neutralizing agents. When filled with this solution, the boiler is fired slowly to circulate the water. Lastly, the unit is drained, blown down and fired.
27. The air preheaters are usually washed once a year during overhaul operations when the facility is burning gas and twice a year when burning oil.



28. Boiler fireside washes are performed to remove soot and accumulated combustion by-products from metal surfaces in order to maintain efficient heat transfer. Frequency again depends on the fuel being burned. These washes are accomplished by spraying high-pressure water against the surfaces to be cleaned. Wastewaters thus generated contain an assortment of dissolved and suspended solids with loadings and constituents dependent upon the fuel used.
29. Municipal water is supplied to the plant for use in their sanitary system.
30. As discussed in Finding 12 and contained in Attachment A of this Order, the Encina Power Plant has the potential to produce the following categories of wastewater:
  - (a) Once-Through Cooling Water
  - (b) Metal Cleaning Wastes
  - (c) Low Volume Wastes
  - (d) Seepage and Ground Water Pumping
  - (e) Sanitary Wastewater

Once-through cooling water, circulating pump lubrication water, blowdown, reverse osmosis brine and ground water are discharged to the Pacific Ocean without treatment. Sanitary waste is discharged to the municipal sewer for treatment and disposal.

31. Metal cleaning waste waters undergo neutralization, flocculation, and chemical precipitation at an on-site waste water treatment plant. For low volume wastes that are treated, the facility provides physical-chemical treatment (neutralization, flocculation, and chemical precipitation) if required, otherwise the waste is discharged from primary treatment ponds. Low volume waste is discharged from the primary treatment tank, or the physical-chemical treatment plant to the condenser cooling water flow.
32. The Comprehensive Water Quality Control Plan Report, San Diego Basin (9) (Basin Plan) was adopted by this Regional Board on March 17, 1975; approved by the State Board on March 20, 1975; and updated by the Regional Board on February 27, 1978 and March 23, 1981. The 1978 and 1981 updates were subsequently approved by the State Board.
33. The Comprehensive Water Quality Control Plan Report also contains the following prohibitions for waters subject to tidal action:

"The dumping or deposition from shore or from vessels of oil, garbage, trash or other solid municipal or agricultural wastes directly into waters subject to tidal action or adjacent to waters subject to tidal action in any manner which may permit it to be washed into the waters subject to tidal action is prohibited."

\* \* \* \* \*

"Discharge of industrial wastewaters exclusive of cooling water, clear brine or other waters which are essentially chemically unchanged, into waters subject to tidal action is prohibited."

\* \* \* \* \*

"The dumping or deposition of chemical wastes, chemical agents or explosives into waters subject to tidal action is prohibited."

34. The Comprehensive Water Quality Control Plan Report San Diego Basin (9) established the following beneficial uses for the waters of the Pacific Ocean:
- (a) Industrial service supply
  - (b) Navigation
  - (c) Water contact recreation
  - (d) Non-water contact recreation
  - (e) Ocean commercial and sportfishing
  - (f) Preservation of areas of special biological significance
  - (g) Preservation of rare and endangered species
  - (h) Marine habitat
  - (i) Fish migration
  - (j) Shellfish harvesting
35. On September 18, 1975, the State Water Resources Control Board adopted a revised version of the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan). This Plan contained objectives for discharges of elevated temperature wastes (existing and new discharges) to coastal waters.
36. Under the terms and conditions of the Thermal Plan, waste discharges from Units 1-4 and the gas turbine would be classified as existing discharges. The waste discharge from Unit 5 would be classified as a new discharge.
37. Under the Environmental Protection Agency's effluent guidelines and standards for the Steam Electric Power Generating Point Source Category in effect in 1974 and contained in 40 CFR Part 423, the Encina Power Plant Units 1-4 were classified as old units and Unit 5 was classified as a new unit.
38. Clean Water Act, Section 316(a), authorizes the imposition of alternative thermal effluent limitations if the owner or operator of a point source has demonstrated to the satisfaction of the Regional Board that effluent limitations proposed with respect to the thermal component of the discharge area are more stringent than necessary to assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife in and on the body of water into which the discharge is to be made.
39. On March 6, 1975, under the provisions of Clean Water Act Section 316(a), SDG&E applied for an exception for Unit 5 from the following new source performance standards contained in the Thermal Plan and the Federal Steam Electric Generating effluent guidelines in effect in 1975.

(a) Thermal Plan Objective 3.B(1)

Elevated temperature waste shall be discharged to the open ocean away from the shoreline to achieve dispersion through the vertical water column.

## (b) Thermal Plan Objective 3.B(4)

The discharge of elevated temperature wastes shall not result in increases in the natural water temperature exceeding 4°F at (a) the shoreline, (b) the surface of any ocean substrate, or (c) the ocean surface beyond 1,000 feet from the discharge system. The surface temperature limitation shall be maintained at least 50 percent of the duration of any complete tidal cycle.

## (c) EPA Steam Electric Power Plant Effluent Guidelines in Effect in 1974, 40 CFR 423.15(L)

There shall be no discharge of heat from the main condensers except:

- (1) Heat may be discharged in blowdown from recirculated cooling water systems provided the temperature at which the blowdown is discharged does not exceed at any time the lowest temperature of recirculated cooling water prior to the addition of the make-up water.
- (2) Heat may be discharged in blowdown from cooling ponds provided the temperature at which the blowdown is discharged does not exceed at any time the lowest temperature of recirculated cooling water prior to the addition of the make-up water.

40. On July 16, 1976 the U.S. Court of Appeals for the Fourth Circuit remanded certain provisions (including the thermal limitation discussed in Finding 39(c) above) of EPA's 1974 Steam Electric Power Plant effluent guidelines for further consideration. EPA has not promulgated a new heat discharge limitation for steam electric power plants to date. Accordingly, the thrust of SDG&E's Section 316(a) study was to demonstrate that an exception to the standards discussed in Findings 39, Part (a) and (b), was appropriate. SDG&E proposed alternate effluent limitations to be used in lieu of the above standards, that would allow water discharges from Unit 5 via the same "across the beach" channel used by Units 1-4. Accordingly SDG&E initiated a study in 1975 to demonstrate that such a discharge from Unit 5 would assure the protection of the aquatic communities of the receiving waters.
41. SDG&E submitted the results of the Clean Water Act Section 316(a) demonstration study in 1981. The Regional Board will act on SDG&E's request for an exception to the Thermal Plan requirement for "new discharges" upon completion of Regional Board staff review and evaluation of the study.
42. Clean Water Act Section 316(b) requires that the location, design, construction and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact. By letter dated October 30, 1977 the Regional Board requested SDG&E to initiate Intake Water Studies to Demonstrate conformance with the requirements of Clean Water Act Section 316(b).
43. In December, 1980 the discharger submitted a final report intended to comply with Clean Water Act Section 316(b). The Regional Board will make a determination if the location, design, construction and capacity of the Encina Power Plant cooling water intake structure reflects the best available technology for minimizing adverse environmental impacts upon completion of review and evaluation of SDG&E's 316(b) Study by Regional Board staff.

44. The discharge would not be in conflict with the Water Quality Control Policy for Enclosed Bays and Estuaries of California, adopted by the State Water Resources Control Board on May 16, 1974.
45. The Water Quality Control Plan for Ocean Waters of California - 1983 (Ocean Plan) was adopted by the State Board on November 17, 1983. The 1983 Ocean Plan superseded the Ocean Plan adopted on January 19, 1978. The Ocean Plan established beneficial uses of the ocean waters of the State, water quality objectives, general requirements for management of waste discharges to the ocean, quality requirements for waste discharges, and discharge prohibitions.
46. The Ocean Plan establishes a procedure for determining effluent limitations which is based on the minimum initial dilution of a discharge by the receiving ocean waters. The State Board has issued a document entitled Water Quality Control Plan, Table B Guidelines, Ocean Waters of California, 1978 (Table B Guidelines) to assist in implementing the Ocean Plan. The Table B Guidelines describe two numerical models for use in estimating the minimum initial dilution of a discharge. If the models described in the Table B Guidelines are not applicable, a discharger may propose another numerical model or use the results of a site-specific physical modeling study. The State Board staff approve an initial dilution value of 15.5 for the Encina Power Plant.
47. The Regional Board finds that the Best Practicable Control Technology (BPT) effluent limitations which the U.S. Environmental Protection Agency has promulgated to regulate conventional pollutants for the Steam Electric Power Generating point source category are equivalent for Best Conventional Pollutant Control Technology (BCT) for the Encina Power Plant of the San Diego Gas and Electric Company.
48. Effluent limitations, national standards of performance, and toxic and pretreatment effluent standards established pursuant to Section 301, 302, 303(d), 304, 306, 307, 316 and 403 of the Federal Water Pollution Control Act and amendments thereto are applicable to the discharge.
49. On November 19, 1982, the Environmental Protection Agency promulgated effluent guidelines and standards for discharge from steam-electric power generating plants. The guidelines established effluent limitation guidelines, pretreatment standards and new source performance standards, and are contained in 40 CFR Parts 125 and 423.
50. The Regional Board, in establishing the requirements contained herein, considered factors including, but not limited to the following:
  - (a) Past, present, and probable future beneficial uses of water.
  - (b) Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.
  - (c) Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area.
  - (d) Economic considerations.
  - (e) The need for development of housing within the region.

51. The Regional Board has considered all environmental factors associated with the discharge of waste.
52. The Regional Board has notified the discharger and all known interested parties of its intent to prescribe waste discharge requirements for the discharge.
53. The Regional Board in a public meeting heard and considered all comments pertaining to the discharge.
54. This order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act, or amendments hereto.
55. The action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21000 et. seq.) in accordance with Section 13389 of the California Water Code.

IT IS HEREBY ORDERED, that the San Diego Gas and Electric Company, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder and the provisions of the Clean Water Act, and regulations and guidelines adopted thereunder, shall comply with the following:

A. PROHIBITIONS

1. The discharge of any radiological, chemical, or biological warfare agent or high level radioactive waste to the ocean is prohibited.
2. The discharge of polychlorinated biphenyl compounds, such as those commonly used for transformer fluid, is prohibited.
3. The discharge of municipal and industrial waste sludge directly to the ocean, or into a waste stream that discharges to the ocean is prohibited. The discharge of sludge digester supernatant directly to the ocean, or into a waste stream that discharges to the ocean without further treatment, is prohibited.
4. The bypassing of untreated wastes is prohibited except under those circumstances described under Provision 14 of this Order.
5. A discharge from Encina Power Plant in excess of 860.3 MGD is prohibited unless the discharger obtains revised waste discharge requirements for the proposed increased discharge rate.
6. Total residual chlorine may not be discharged from any single generating unit for more than two hours per day unless the discharger demonstrates to the permitting authority that discharge for more than two hours is required for macroinvertebrate control. Simultaneous multi-unit chlorination is permitted.

## B. DISCHARGE SPECIFICATIONS

1. The combined discharge of non-contact cooling water, low volume waste, and metal cleaning waste containing pollutants in excess of the following effluent limitations is prohibited:<sup>1/</sup>

Parameter	Units <sup>2/3/</sup>	6-Month <sup>4/</sup> Median	Monthly <sup>5/</sup> Average	Weekly <sup>6/</sup> Average	Daily <sup>7/</sup> Maximum	Instantaneous <sup>8/</sup> Maximum
Total Residual Chlorine <sup>9/</sup>	ug/l lbs/day	- -	- -	- -	200 596	200 -
Toxicity Concentration <sup>10/</sup>	tu	0.83	-	-	-	-
Arsenic	ug/l lbs/day	- -	- -	- -	- -	1274 9141
Cadmium	ug/l lbs/day	- -	- -	- -	- -	495 3552
Chromium <sup>11/</sup> (Hexavalent)	ug/l lbs/day	- -	- -	- -	- -	330 2368
Copper	ug/l lbs/day	- -	- -	- -	- -	794 5697
Lead	ug/l lbs/day	- -	- -	- -	- -	1320 9471
Mercury	ug/l lbs/day	- -	- -	- -	- -	22 159
Nickel	ug/l lbs/day	- -	- -	- -	- -	3300 23677
Silver	ug/l lbs/day	- -	- -	- -	- -	72 516
Zinc	ug/l lbs/day	- -	- -	- -	- -	3176 22787
Cyanide	ug/l lbs/day	- -	- -	- -	- -	825 5919
Ammonia	ug/l lbs/day	- -	- -	- -	- -	99000 710312
Phenolic Compounds	ug/l lbs/day	- -	- -	- -	- -	4950 35516

Parameter	Units <sup>2/3/</sup>	6-Month <sup>4/</sup> Median	Monthly <sup>5/</sup> Average	Weekly <sup>6/</sup> Average	Daily <sup>7/</sup> Maximum	Instantaneous <sup>8/</sup> Maximum
Chlorinated Phenolics	ug/1 lbs/day	- -	- -	- -	- -	165 1184
Aldrin and Dieldrin	ug/1 lbs/day	- -	- -	- -	- -	0.099 0.7
Chlordane and <sup>12/</sup> Related Compounds	ug/1 lbs/day	- -	- -	- -	- -	0.149 1.1
DDT and <sup>13/</sup> Derivatives	ug/1 lbs/day	- -	- -	- -	- -	0.050 0.4
Endrin	ug/1 lbs/day	- -	- -	- -	- -	0.099 0.7
HCH <sup>14/</sup>	ug/1 lbs/day	- -	- -	- -	- -	0.198 1.4
Toxaphene	ug/1 lbs/day	- -	- -	- -	- -	0.347 2.5
Radioactivity	Not to exceed limits specified in Title 17, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30269 of the California Administrative Code.					

2. The Encina Power Plant discharge to the Pacific Ocean shall be essentially free of:

- (a) Material that is floatable or will become floatable upon discharge;
- (b) Settleable material or substances that form sediments which degrade<sup>15/</sup> benthic communities or other aquatic life;
- (c) Substances toxic to marine life due to increases in concentrations in marine waters or sediments;

Note: ug/1 = micrograms per liter

lbs/day = pounds per day

tu = toxicity units

A list of all footnotes referenced will be found following the last page of the waste discharge requirements section.

- (d) Substances that significantly decrease the natural light of benthic communities and other marine life; and
  - (e) Materials that result in esthetically undesirable discoloration of the ocean surface.
3. Encina Power Plant waste management systems that discharge to the ocean shall be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.
  4. Wastes from Encina Power Plant shall be discharged to the ocean in a manner which provides sufficient initial dilution<sup>16/</sup> to minimize the concentrations of substances not removed in treatment.
  5. The location of the waste discharge from Encina Power Plant shall assure that:
    - (a) Pathogenic organisms and viruses are not present in areas where shellfish are harvested for human consumption or in areas used for swimming or other body-contact sports;<sup>17/</sup>
    - (b) Natural water quality conditions are not altered in areas designated as being of special biological significance; and
    - (c) Maximum protection is provided to the marine environment.
  6. The Encina Power Plant discharge of elevated temperature wastes to the Pacific Ocean shall comply with limitations necessary to assure protection of beneficial uses and designated areas of special biological significance.
  7. During normal operation, the temperature of the discharge to the Pacific Ocean shall not average more than 20°F (11.1°C) above that of the incoming Lagoon water during any 24-hour period. The discharge shall not at any time exceed 25°F (13.9°C) above that of the incoming Lagoon water.
  8. During heat treatment, heat added to the cooling water shall not cause the temperature of the discharge to the Pacific Ocean to exceed the target temperature (105°F/40.6°C) and shall not be maintained for more than two hours.

The target heat treatment duration, 2 hours, represents the period of time at the target temperature and not the time required to reach 105°F and the time to return to normal operation. The target heat treatment temperature (105°F) and time (2 hours) is subject to the precision which can be practicably attained by station operators. Consequently, during the temperature rise period, before initiating heat treatment, and as the influent temperature varies, temperatures may be inadvertently increased above the target temperature due to equipment limitations; however, the target temperature shall not be exceeded by more than 10°F for more than fifteen minutes. If temperature sensor readings differ slightly, the target temperature shall be reached using the sensor with the lowest reading.



9. In the event the San Diego Gas and Electric Company's request for a Clean Water Act Section 316(a) exception to the Thermal Plan's requirements is not granted by the Regional Board, (as discussed in Finding Number 41), then the Encina Power Plant Unit 5 discharge shall comply with the following new source performance standards contained in the Thermal Plan:
- (a) Elevated temperature waste shall be discharged to the open ocean away from the shoreline to achieve dispersion through the vertical water column.
  - (b) The discharge of elevated temperature wastes shall not result in increases in the natural water temperature exceeding 4°F at (a) the shoreline, (b) the surface of any ocean substrate, or (c) the ocean surface beyond 1,000 feet from the discharge system. The surface temperature limitation shall be maintained at least 50 percent of the duration of any complete tidal cycle.
10. The pH of the discharge from the Encina Power Plant to the Pacific Ocean shall be within the range of 6.0 to 9.0 pH units at all times.
11. The low volume waste discharge to the combined discharge outfall containing pollutants in excess of the following effluent limitations is prohibited:

Parameter	Units <sup>2/18/</sup>	6-Month <sup>4/</sup> Median	Monthly <sup>5/</sup> Average	Weekly <sup>6/</sup> Average	Daily <sup>7/</sup> Maximum	Instantaneous <sup>8/</sup> Maximum
Total	mg/l	-	30	-	100	100
Suspended Solids	lbs/day	-	567	-	1890	1890
Grease and Oil	mg/l	-	15	-	20	20
	lbs/day	-	283	-	378	378

12. The metal cleaning waste discharged to the combined discharge outfall containing pollutants in excess of the following effluent limitations is prohibited:

Parameter	Units <sup>2/19/</sup>	6-Month <sup>4/</sup> Median	Monthly <sup>5/</sup> Average	Weekly <sup>6/</sup> Average	Daily <sup>7/</sup> Maximum	Instantaneous <sup>8/</sup> Maximum
Total	mg/l	-	30	-	100	100
Suspended Solids	lbs/day	-	199	-	665	665
Grease and Oil	mg/l	-	15	-	20	20
	lbs/day	-	100	-	133	133
Total Copper	mg/l	-	1	-	1	1
	lbs/day	-	7	-	7	7
Total Iron	mg/l	-	1	-	1	1
	lbs/day	-	7	-	7	7

13. The combined discharge from all Encina in-plant waste sources, shall not exceed the following limitations:<sup>1/</sup>

Parameter	Units <sup>2/20/</sup>	6-Month <sup>4/</sup> Median	Monthly <sup>5/</sup> Average	Weekly <sup>6/</sup> Average	Daily <sup>7/</sup> Maximum
Arsenic	lb/day	613	-	-	3455
Cadmium	lb/day	355	-	-	1421
Chromium <sup>11/</sup> (Hexavalent)	lb/day	237	-	-	947
Copper	lb/day	370	-	-	2145
Lead	lb/day	947	-	-	3788
Mercury	lb/day	10	-	-	60
Nickel	lb/day	2368	-	-	9471
Silver	lb/day	35	-	-	195
Zinc	lb/day	1478	-	-	8581
Cyanide	lb/day	592	-	-	2368
Ammonia (expressed as nitrogen)	lb/day	71031	-	-	284124
Phenolic Compounds (non-chlorinated)	lb/day	3552	-	-	14206
Chlorinated Phenolics	lb/day	118	-	-	474
Aldrin and Dieldrin	lb/day	0.24	-	-	.47
Chlordane <sup>12/</sup> and Related Compounds	lb/day	.36	-	-	0.71
DDT and <sup>13/</sup> Derivatives	lb/day	0.12	-	-	0.24
Endrin	lb/day	0.24	-	-	.47
HCH <sup>14/</sup>	lb/day	.47	-	-	0.95

Parameter	Units <sup>2/20/</sup>	6-Month <sup>4/</sup> Median	Monthly <sup>5/</sup> Average	Weekly <sup>6/</sup> Average	Daily <sup>7/</sup> Maximum
Toxaphene	lb/day	0.83	-	-	1.66
Radioactivity		Not to exceed limits specified in Title 17, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30269 of the California Administrative Code.			

#### C. COOLING WATER INTAKE STRUCTURE SYSTEM SPECIFICATIONS

1. The discharger shall dredge sand and silt to eliminate buildup in front of the intake structure and routinely clean the bar racks at Encina Power Plant as necessary to maintain bar rack approach velocities as close as practical to design levels. The discharger shall rotate and clean intake screen assemblies at a frequency of not less than once every eight hours when the unit is in operation, for the purpose of maintaining intake water velocities as close as practical to design levels.
2. The discharger shall minimize circulation water flow where possible when units are at reduced load or out of service except as required to ensure equipment and personal safety.
3. The discharger shall avoid sudden increases in cooling water flow whenever possible.

#### D. RECEIVING WATER LIMITATIONS

1. The Encina discharge to the Pacific Ocean shall not by itself or jointly with any discharge or discharges cause the following water quality objectives to be violated:
  - (a) Bacteriological Characteristics
    - (1) Within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and in areas outside this zone used for body-contact sports, the following bacteriological objectives shall be maintained throughout the water column:
      - a. Samples of water from each sampling station shall have a concentration of coliform organisms less than 1,000 per 100 ml (10 per ml); provided that not more than 20 percent of the samples at any sampling station, in any 30-day period, may exceed 1,000 per 100 ml (10 per ml), and provided further that no single sample when verified by a repeat sample taken within 48 hours shall exceed 10,000 per 100 ml (100 per ml).

- b. The fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200 per 100 ml nor shall more than 10 percent of the total samples during any 30-day period exceed 400 per 100 ml.

- (2) At any areas where shellfish may be harvested for human consumption, the following bacteriological objectives shall be maintained throughout the water column:

The median total coliform concentration shall not exceed 70 per 100 ml, and not more than 10 percent of the samples shall exceed 230 per 100 ml.

(b) Physical Characteristics

- (1) Floating particulates and grease and oil shall not be visible.
- (2) The discharge shall not cause esthetically undesirable discoloration of the ocean surface.
- (3) The transmittance of natural light shall not be significantly<sup>21/</sup> reduced at any point outside the initial dilution zone.
- (4) The rate of deposition of inert solids and the characteristics of inert solids in ocean sediments shall not be changed such that benthic communities are degraded.<sup>15/</sup>

(c) Chemical Characteristics

- (1) The dissolved oxygen concentration<sup>22/</sup> shall not at any time be depressed more than ten percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste materials.
- (2) The pH<sup>22/</sup> shall not be changed at any time more than 0.2 units from that which occurs naturally.
- (3) The dissolved sulfide concentration of waters in and near sediments shall not be significantly<sup>21/</sup> increased above that present under natural conditions.
- (4) The concentration of substances set forth in Receiving Water Limitation 2 of this Order in marine sediments shall not be increased to levels that would degrade<sup>15/</sup> indigenous biota.
- (5) The concentration of organic materials in marine sediments shall not be increased above that which would degrade<sup>15/</sup> marine life.
- (6) Nutrient materials shall not cause objectionable aquatic growths or degrade<sup>15/</sup> indigenous biota.

## (d) Biological Characteristics

- (1) Marine communities, including vertebrate, invertebrate, and plant species, shall not be degraded.<sup>15/</sup>
- (2) The natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption shall not be altered.

## (e) Radioactivity

Radioactivity shall not exceed the limits specified in Title 17, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30269 of the California Administrative Code.

2. The Encina Power Plant discharge to the Pacific Ocean shall not by itself or jointly with any other discharge or discharges cause the following toxic material limitations to be exceeded upon completion of initial dilution:

Parameter	Unit	6-Month <sup>4/</sup> Median	Daily <sup>7/</sup> Maximum	Instantaneous <sup>8/</sup> Maximum
Arsenic	ug/l	8	32	80
Cadmium	ug/l	3	12	30
Chromium (Hexavalent) <sup>11/</sup>	ug/l	2	8	20
Copper	ug/l	5	20	50
Lead	ug/l	8	32	80
Mercury	ug/l	0.14	0.56	1.4
Nickel	ug/l	20	80	200
Silver	ug/l	0.45	1.8	4.5
Zinc	ug/l	20	80	200
Cyanide	ug/l	5	20	50
Total Chlorine Residual	ug/l	-	-	74
Ammonia (expressed as (nitrogen))	ug/l	600	2400	6000
Toxicity Concentration <sup>10/</sup>	tu	0.05	-	-
Phenolic Compounds (non- chlorinated)	ug/l	30	120	300
Chlorinated Phenolics	ug/l	1	4	10
Aldrin and Dieldrin	ug/l	0.002	0.004	0.006

Parameter	Unit	6-Month <sup>4/</sup> Median	Daily <sup>7/</sup> Maximum	Instantaneous <sup>8/</sup> Maximum
Chlordane and Related <sup>12/</sup> Compounds	ug/l	0.003	0.006	0.009
DDT and Derivatives <sup>13/</sup>	ug/l	0.001	0.002	0.003
Endrin	ug/l	0.002	0.004	0.006
HCH <sup>14/</sup>	ug/l	0.004	0.008	0.012
PCBs	ug/l	0.003	0.006	0.009
Toxaphene	ug/l	0.007	0.014	0.021
Radioactivity	Not to exceed limits specified in Title 17, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30269 of the California Administrative Code.			

#### E. PROVISIONS

1. Neither the treatment nor the discharge of pollutants shall create a pollution, contamination, or nuisance as defined by Section 13050 of the California Water Code.
2. The discharger must comply with all conditions of this Order. Any permit noncompliance constitutes a violation of the Clean Water Act and the California Water Code and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a Report of Waste Discharge application.
3. The discharger shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncomplying discharge.
4. This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:
  - (a) Violation of any terms or conditions of this Order;
  - (b) Obtaining this Order by misrepresentation or failure to disclose fully all relevant facts, or;
  - (c) A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of a request by the discharger for modification, revocation and reissuance, or termination of this Order does not stay the conditions of this Order. Notification by the discharger of planned changes or of anticipated noncompliance with this Order does not stay the conditions of this Order.

5. In addition to any other grounds specified herein, this permit shall be modified or revoked at any time if, on the basis of any new data, the Executive Officer determines that continued discharges may cause unreasonable degradation of the marine environment.
6. Notwithstanding Provision 4 above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Clean Water Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this Order, this Order shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition and the discharger so notified.
7. This discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Board or the State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act or amendments thereto, the Regional Board will revise and modify this Order in accordance with the more stringent standards.
8. The discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement.
9. This Order is not transferable to any person except after notice to the Executive Officer of this Regional Board. The Regional Board may require modification or revocation and reissuance of this Order to change the name of the discharger and incorporate such other requirements as may be necessary under the California Water Code and the Clean Water Act. The discharger shall submit notice of any transfer of this Order's responsibility and coverage to a new discharger as described under Reporting Requirement 4.
10. This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, nor protect the discharger from his liabilities under federal, state or local laws, nor create a vested right for the discharger to continue his waste discharge.
11. The discharger shall allow the Regional Board, or an authorized representative thereof, or any authorized representative of the United States Environmental Protection Agency, upon the presentation of credentials and other documents as may be required by law, to:



- (a) Enter upon the discharger's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Order;
  - (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;
  - (c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
  - (d) Sample or monitor at reasonable times, for the purpose of assuring compliance with this Order or as otherwise authorized by the Clean Water Act or California Water Code, any substances or parameters at any location.
12. The discharger shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Order.
13. In an enforcement action, it shall not be a defense for the discharger that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this Order. Upon reduction, loss, or failure of the treatment facility, the discharger shall, to the extent necessary to maintain compliance with this Order, control production or all discharges, or both, until the facility is restored or an alternative method of treatment is provided. This provision applies, for example, when the primary source of power of the treatment facility fails, is reduced, or is lost.

14. Bypass of Treatment Facilities

(a) Definitions

- (1) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
- (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facility which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in productions.

(b) Bypass Not Exceeding Effluent Limitations

The discharger may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for

essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (c) and (d) of this provision.

(c) Notice of Anticipated Bypass and Unanticipated Bypass

- (1) Anticipated Bypass: If the discharger knows in advance of the need for a bypass, they shall submit prior notice, if possible, at least ten days before the date of the bypass.
- (2) Unanticipated Bypass: The discharger shall submit notice of the unanticipated bypass as described under Reporting Requirement 6.

(d) Prohibition of Bypass

- (1) Bypass is prohibited and the Regional Board may take enforcement action against the discharger for bypass unless:
  - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
  - b. There was no feasible alternative to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if the discharger could have installed adequate backup equipment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
  - c. The discharger submitted notices as required under paragraph (c) of this section.
- (2) The Executive Officer may approve an anticipated bypass, after considering its adverse effect, if the Executive Officer determines that it will meet the three conditions listed above in paragraph (1) of this subsection.

15. Upset Conditions

(a) Definition

"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations because of factors beyond the reasonable control of the discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

(b) Effect of an Upset

An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of paragraph (c) of this section are met. No

determination made during administrative review of claims that non-compliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

(c) Conditions Necessary for a Demonstration of Upset

A discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

- (1) An upset occurred and that the discharger can identify the specific cause(s) of the upset;
- (2) The permitted facility was at the time being properly operated; and
- (3) The discharger submitted notice of the upset as required in Reporting Requirement 6.

(d) Burden of Proof

In any enforcement proceeding the discharger seeking to establish the occurrence of an upset has the burden of proof.

16. A copy of this Order shall be maintained at Encina Power Plant and shall be available to operating personnel at all times.
17. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.

F. REPORTING REQUIREMENTS

1. The discharger shall file a new Report of Waste Discharge not less than 180 days prior to the following:
  - (a) Addition of a major industrial waste discharge of essentially domestic sewage, or the addition of a new process resulting in a change in the character of the wastes.
  - (b) Significant change in disposal method (e.g., change in the method of treatment which would significantly alter the nature of the waste).
  - (c) Significant change in the disposal area (e.g., moving the discharge to a disposal area significantly removed from the original area, potentially causing different water quality or a nuisance problem).
  - (d) Increase in flow beyond that specified in the waste discharge requirements.
  - (e) Other circumstances which result in a material change in character, amount, or location of the waste discharge.

- (f) Any planned physical alterations or additions to the permitted facility.
2. The discharger shall give advance notice to the Executive Officer of any planned changes in the permitted facility or activity which may result in noncompliance with the requirements of this Order.
  3. San Diego Gas and Electric Company shall submit the annual anticipated heat treatment schedule to the San Diego Regional Water Quality Control Board and the Long Beach Office of the California Department of Fish and Game.
  4. The discharger shall notify the Executive Officer, in writing, at least 30 days in advance of any proposed transfer of this Order's responsibility and coverage to a new discharger. This notice must include a written agreement between the existing and new discharger containing a specific date for the transfer of this Order's responsibility and coverage between the current discharger and the new discharger. This agreement shall include an acknowledgment that the existing discharger is liable for violations up to the transfer date and that the new discharger is liable from the transfer date on.
  5. The discharger shall comply with the attached Monitoring and Reporting Program No. 85-10. Monitoring results shall be reported at the intervals specified in Monitoring and Reporting Program No. 85-10. All samples shall be taken prior to mixing with any other wastestream.
  6. The discharger shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally to the Executive Officer within 24 hours from the time the discharger becomes aware of the circumstances. A written submission shall also be provided within five days of the time the discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent recurrence of the noncompliance. The Executive Officer or an authorized representative may waive the written report on a case-by-case basis if the oral report has been received within 24 hours. The following occurrence(s) must be reported to the Executive Office within 24 hours:
    - (a) Any bypass from any waste treatment facility.
    - (b) Any discharge of treated or untreated wastewater resulting from pipe breaks, obstruction, surcharge or any other circumstance.
    - (c) Any upset which causes the discharge limitations of this Order to be exceeded.
    - (d) Any spills of polychlorinated biphenyl compounds (PCB). The spill residue shall be drummed and disposed of in a manner which meets the approval of the Executive Officer. Water shall not be used to wash down the spill area until an inspection is made by the Board's staff and clearance is given for further clean-up procedures. The written

notification shall include pertinent information explaining reasons for the spill and shall indicate what steps were taken to prevent the problem from recurring.

- (e) Any violation of the prohibitions of this Order.
7. The discharger shall notify the Executive Officer as soon as it is known or there is reason to believe:
    - (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in this Order, if that discharge will exceed the highest of the following "notification levels":
      - (1) One hundred micrograms per liter (100 ug/l);
      - (2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony; and
      - (3) Five times the maximum concentration value reported for that toxic pollutant in the Report of Waste Discharge submitted in application for this Order.
    - (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the Report of Waste Discharge application for this Order.
  8. The discharger shall furnish to the Executive Officer within a reasonable time, any information which the Executive Officer may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The discharger shall also furnish to the Executive Officer, upon request, copies of records required to be kept by this Order.
  9. Where the discharger becomes aware that any relevant facts were not submitted in the Report of Waste Discharge, or that incorrect information was submitted in the Report of Waste Discharge or in any report to the Regional Board, the discharger shall promptly submit such facts or information.
  10. If a need for a discharge bypass is known in advance, the discharger shall submit prior notice and, if at all possible, such notice shall be submitted at least 10 days prior to the date of the bypass.
  11. This Order expires on January 28, 1990. If the discharger wishes to continue activity regulated by this Order after the expiration date of this Order, the discharger must apply for and obtain new waste discharge requirements. The discharger must file a Report of Waste Discharge in accordance with Title 23, California Administrative Code, not later than 180 days in advance of such date, as application for issuance of new waste discharge requirements.

12. All applications, reports, or information submitted to the Executive Officer of this Regional Board shall be signed and certified.

(a) The Report of Waste Discharge shall be signed as follows:

- (1) For a corporation - by a principal executive officer of at least the level of vice-president.
- (2) For a partnership or sole proprietorship - by general partner or the proprietor, respectively.
- (3) For a municipality, state, federal or other public agency - by either a principal executive officer or ranking elected official.

(b) All other reports required by this Order and other information requested by the Executive Officer shall be signed by a person designated in paragraph (a) of this provision or by a duly authorized representative of that person. An individual is a duly authorized representative only if:

- (1) The authorization is made in writing by a person described in paragraph (a) of this provision;
- (2) The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility (a duly authorized representative may thus be either a named individual or any individual occupying a named position); and
- (3) The written authorization is submitted to the Executive Officer.

(c) Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

13. Except for data determined to be confidential under Title 40, United States Code of Federal Regulations Part 2, all reports prepared in accordance with the terms of this Order shall be available for public inspection at the offices of the California Regional Water Quality Control Board, San Diego Region. As required by the Clean Water Act, Reports of Waste Discharge, this Order, and effluent data shall not be considered confidential.

14. The discharger shall submit reports required under this Order to:

Executive Officer  
California Regional Water Quality Control Board  
San Diego Region  
6154 Mission Gorge Road, Suite 205  
San Diego, California 92120

Environmental Protection Agency  
Region IX  
Permits Branch, Water Quality Office  
215 Fremont Street  
San Francisco, California 94105

G. NOTIFICATION

1. The Clean Water Act provides that any person who violates a condition of this Order implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Clean Water Act is subject to a civil penalty not to exceed \$10,000 per day of such violation. Any person who willfully or negligently violates conditions of this Order implementing Sections 301, 302, 306, 307, or 308 of the Clean Water Act is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than one year, or both.
2. The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Order, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both.
3. Except as provided in Provisions 14 and 15, nothing in this Order shall be construed to relieve the discharger from civil or criminal penalties for noncompliance.
4. Nothing in this Order shall be construed to preclude the institution of any legal action or relieve the discharger from any responsibilities, liabilities, or penalties to which the discharger is or may be subject under Section 311 of the Clean Water Act.
5. Nothing in this Order shall be construed to preclude the institution of any legal action or relieve the discharger from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Clean Water Act.
6. This Order shall become effective 10 days after the date of its adoption provided the Regional Administrator, United States Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, this Order shall not become effective until such objection is withdrawn.
7. Order No. 76-22 is hereby rescinded.

8. This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall take effect at the end of 10 days from date of adoption provided the Regional Administrator, Environmental Protection Agency, has no objections.

*I, Ladin H. Delaney, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on January 28, 1985.*

*Ladin H. Delaney*

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Ladin H. Delaney  
Executive Officer



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN DIEGO REGION

Footnote references for waste discharge requirements of Order No. 85-10 (NPDES No. CA0001350), WASTE DISCHARGE REQUIREMENTS FOR SAN DIEGO GAS & ELECTRIC CO., ENCINA POWER PLANT, CARLSBAD, CA.

1. The discharge limitation for Ocean Plan Table B parameters were determined using the procedures outlined in the Ocean Plan and a minimum initial dilution value of 15.5.
2. The mass emission rate (MER) of a substance is calculated using the following equation:

$$MER = 8.34 \times Q \times C_e$$

Where MER is the mass emission rate in lb/day, Q is the discharge flow rate in MGD,  $C_e$  is the concentration of the substance in the discharge in mg/l.

If a composite sample is taken,  $C_e$  is the concentration measured in the composite sample and Q is the average discharge flow rate occurring during the period over which the composite sample is collected.

3. The MER values in this table were obtained using  $Q = 860.296$  MGD, the maximum combined discharge flow rate reported in the Report of Waste Discharge, and  $C_e$  values from Table B of the Ocean Plan. When the combined discharge is lower than 860.296 MGD, the MER limit shall be correspondingly lower.
4. The six-month median effluent concentration limit shall apply as a moving median of daily values for any 180-day period in which daily values represent flow weighted average concentrations within a 24-hour period. For intermittent discharges, the daily value shall be considered to equal zero for days on which no discharge occurred.
5. The monthly average shall be the arithmetic mean, using the results of analyses of all samples collected during any 30 consecutive calendar day period.
6. The weekly average shall be the arithmetic mean using the results of analyses of all samples collected during any 7 consecutive calendar day period.
7. The daily maximum effluent limitation shall apply to the results of a single composite sample collected over a period of 24 hours, except total residual chlorine.
8. The effluent concentration limit shall apply to grab sample determinations.
9. Discharge limitations for total residual chlorine are based on EPA Standards for the Steam Electric Power Generating Point Source category. The maximum concentration for the combined discharge is limited to 200 ug/l of total residual chlorine, and the maximum MER is limited to 119 lbs/day per unit, based on a two hour daily maximum allowable duration of total residual chlorine discharge. The MER value for total residual chlorine discharge is based on a cooling water discharge flow of 857,088,000 gallons/day. When the respective flow is

lower than the value listed here then the MER limit shall be correspondingly lower. Concentration and MER values for remainder of this table are for the full 24-hour period.

10. This parameter shall be used to measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological responses.

a. Toxicity Concentration (Tc)

Expressed in Toxicity Units (tu)

$$Tc (tu) = \frac{100}{96\text{-hr. TLm\%}}$$

b. Median Tolerance Limit (TLm%)

The TLm shall be determined by static or continuous flow bioassay techniques using standard test species. If specific identifiable substances in wastewater can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the marine environment, the TLm may be determined after the test samples are adjusted to remove the influence of those substances.

When it is not possible to measure the 96-hr. TLm due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

$$TC (tu) = \frac{\log (100 - S)}{1.7}$$

S = Percentage survival in 100% waste. If S > 99, TC shall be reported as zero.

If the calculated value for toxicity concentration in the combined discharge falls below the limit of detection of the test method specified in the Code of Federal Regulations 40 CFR, Part 136, "Guidelines Establishing Test Procedures For Analysis of Pollutants," or by a more sensitive method specified by the State Water Resources Control Board or the Regional Board, the limit of detection shall serve as the limiting effluent concentration. The limit of detection of acute toxicity in standard test methods is less than, or equal to, 0.59 tu.

11. The discharger may at their option meet this limitation as a Total Chromium limitation.
12. Chlordane and related compounds shall mean the sum of chlordane (cis + trans), trans-nonachlor, oxychlordane, heptachlor and heptachlor epoxide.
13. DDT and derivatives shall mean the sum of the p, p' and o,p' isomers of DDT, DDD (TDE) and DDe.
14. HCH shall mean the sum of the alpha, beta, gamma (lindane) and delta isomers.

15. Degradation shall be determined by analysis of the effects of the discharge on species diversity, population density, contamination, growth anomalies, debility, or supplanting of normal species by undesirable plant and animal species.
16. Initial dilution is the process which results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.
17. Waste that contains pathogenic organisms of viruses should be discharged a sufficient distance from shellfish and body contact sports areas to maintain applicable bacteriological standards without disinfection. Where conditions are such that an adequate distance cannot be obtained, reliable disinfection in conjunction with a reasonable separation of the discharge point from the area of use must be provided. Consideration should be given to disinfection procedures that do not increase effluent toxicity and that constitute the least environmental and human hazard in their production, transport, and utilization.
18. The MER values in this table were obtained using  $Q = 2.2665$  MGD, the low volume waste discharge flow rate determined from the Report of Waste Discharge, and the following  $C_e$  values from the EPA Standards for the Steam Electric Power Generating Source Category:

Parameter	Units	Monthly Average	Daily Maximum
Total Suspended Solids	mg/l	30.0	100.0
Grease and Oil	mg/l	15.0	20.0

When the low volume waste discharge flow rate is lower than 2.2665 MGD, the MER limits shall be correspondingly lower.

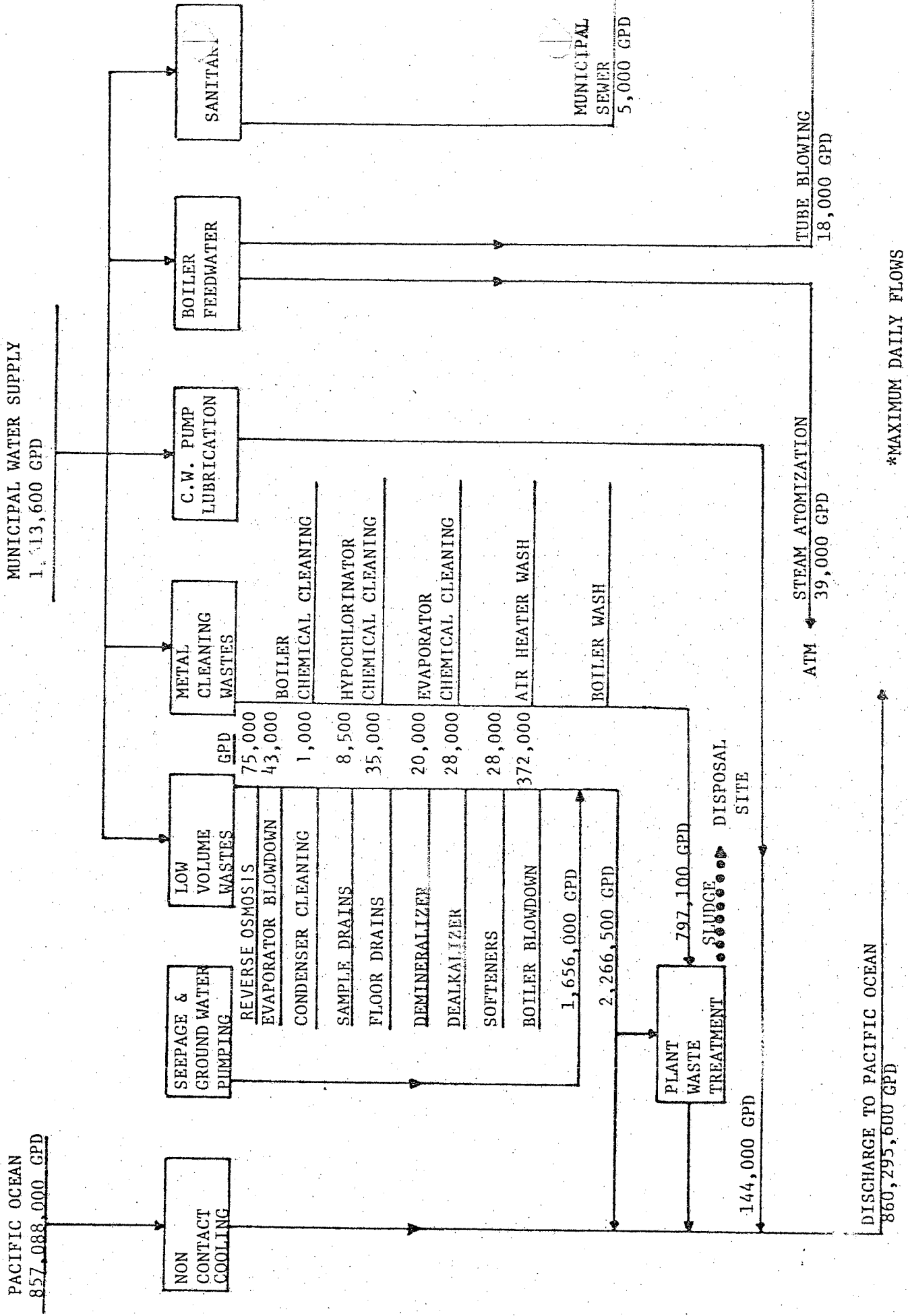
19. The MER values in this table were obtained using the metal cleaning waste discharge of 797,100 gal per day, the flow rates determined from the Report of Waste Discharge, and the following  $C_e$  values from the EPA Standards for the Steam Electric power Generating Point Source Category:

Parameter	Units	Monthly Average	Daily Maximum
Total Suspended Solids	mg/l	30.0	100.0
Grease and Oil	mg/l	15.0	20.0
Total Copper	mg/l	1.0	1.0
Total Iron	mg/l	1.0	1.0

When the metal cleaning waste discharge flow rate is lower than 797,100 gal per day, the MER limits shall be correspondingly lower.

20. The MER values in this table were obtained using procedures outlined in the Ocean Plan,  $C_e$  values from Table B of the Ocean Plan and  $Q = 860.2956$  MGD, the combined discharge. When the combined discharge flow rate is lower than 860.2956 MGD, the MER limits shall be corresponding lower.
21. A "significant difference" is defined as a statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level.
22. Compliance with this water quality objective shall be determined from sample collected at stations representative of the area within the waste field where initial dilution is completed.

SCHEMATIC OF WATER FLOWS\*  
 ENCINA POWER PLANT  
 CARLSBAD, CALIFORNIA  
 OCTOBER, 1980





CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN DIEGO REGION

MONITORING AND REPORTING PROGRAM NO. 85-10

FOR THE

SAN DIEGO GAS & ELECTRIC COMPANY  
ENCINA POWER PLANT  
SAN DIEGO COUNTY

A. MONITORING PROVISIONS

1. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this Order and, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Executive Officer.
2. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to ensure that the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than  $\pm 10$  percent from true discharge rates throughout the range of expected discharge volumes. Guidance in selection, installation, calibration and operation of acceptable flow measurement devices can be obtained from the following references:
  - (a) "A Guide to Methods and Standards for the Measurement of Water Flow," U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 421, May 1975, 96 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by SD Catalog No. C13.10:421.)
  - (b) "Water Measurement Manual," U.S. Department of Interior, Bureau of Reclamation, Second Edition, Revised Reprint, 1974, 327 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by Catalog No. 172.19/2:W29/2, Stock No. S/N 24003-0027.)
  - (c) "Flow Measurement in Open Channels and Closed Conduits," U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 484, October 1977, 982 pp. (Available in paper copy or microfiche from National Technical Information Service (NTIS) Springfield, VA 22151. Order by NTIS No. PB-273 535/5ST.)
  - (d) "NPDES Compliance Sampling Manual," U.S. Environmental Protection Agency, Office of Water Enforcement, Publication MCD-51, 1977, 140 pp. (Available from the General Services Administration (8FFS), Centralized Mailing Lists Services, Building 41, Denver Federal Center, CO 80225.)

3. Monitoring must be conducted according to United States Environmental Protection Agency test procedures approved under Title 40, United States Code of Federal Regulations (CFR), Part 136, "Guidelines Establishing Test Procedures for Analysis of Pollutants."
4. Monitoring results must be reported on Discharge Monitoring Report forms supplied by the Regional Board. Duplicate copies of the monitoring reports signed and certified as required by Reporting Requirement 12 must be submitted to the United States Environmental Protection Agency and the Regional Board at the addresses listed in Reporting Requirement 14.
5. If the discharger monitors any pollutant more frequently than required by this Order, using test procedures approved under 40 CFR Part 136, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the discharger's monitoring report. The increased frequency of monitoring shall also be reported.
6. The discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three years from the date of the sample, measurement, report, or application. This period may be extended by the request of the Executive Officer at any time.
7. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Executive Officer in this Order.
8. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Health Services or a laboratory approved by the Executive Officer.
9. The discharger shall report all instances of noncompliance not reported under Reporting Requirement 6 of this Order at the time monitoring reports are submitted. The reports shall contain the information listed in Reporting Requirement 6.
10. Records of monitoring information shall include:
  - (a) The date, exact place, and time of sampling or measurements;
  - (b) The individual(s) who performed the sampling or measurements;
  - (c) The date(s) analyses were performed;
  - (d) The individual(s) who performed the analyses;
  - (e) The analytical techniques or method used; and
  - (f) The results of such analyses.



11. This monitoring program may be modified by the Executive Officer at any time.

B. COOLING WATER INTAKE STRUCTURE MONITORING PROGRAM

1. The following shall constitute the monitoring program for the bar rack and intake structure:

The discharger shall annually measure bar rack approach velocity sediment accumulation at the intake structure and shall submit to the Executive Officer an annual summary describing any operational difficulties at the intake structure or the bar rack. The discharger shall also discuss preventive maintenance and corrective measures taken to assure intake water velocities are as close as practical to design levels.

2. Samples of the cooling water intake shall be collected in accordance with the following criteria:

Parameter	Units	Sample <sup>1/</sup> Type	Minimum Frequency of Analysis	Reporting Frequency
Temperature	°F	Measurement	Continuous <sup>2/</sup>	Monthly
pH	-	Grab	Monthly <sup>3/</sup>	Monthly

C. COMBINED DISCHARGE MONITORING PROGRAM<sup>4/</sup>

Samples of the combined discharge shall be collected in accordance with the following criteria:

Parameter	Units	Sample <sup>1/</sup> Type	Minimum Frequency of Analysis	Reporting Frequency
Flow	MGD	-	Continuous	Monthly
Temperature	°F	Measurement	Continuous <sup>2/</sup>	Monthly
Total Suspended Solids	mg/l lbs/day	Grab	Monthly	Monthly
Grease and Oil	mg/l lbs/day	Grab	Monthly	Monthly
Total Residual Chlorine	ug/l lbs/day	Grab	Monthly <sup>5/</sup>	Monthly

Parameter	Units	Sample <sup>1/</sup> Type	Minimum Frequency of Analysis	Reporting Frequency
pH	pH units	Grab	Monthly <sup>3/</sup>	Monthly
Arsenic	ug/l lbs/day	Grab	Semiannual	Semiannual
Cadmium	ug/l lbs/day	Grab	Semiannual	Semiannual
Chromium <sup>6/</sup> (Hexavalent)	ug/l lbs/day	Grab	Semiannual	Semiannual
Copper	ug/l lbs/day	Grab	Semiannual	Semiannual
Lead	ug/l lbs/day	Grab	Semiannual	Semiannual
Mercury	ug/l lbs/day	Grab	Semiannual	Semiannual
Nickel	ug/l lbs/day	Grab	Semiannual	Semiannual
Silver	ug/l lbs/day	Grab	Semiannual	Semiannual
Zinc	ug/l lbs/day	Grab	Semiannual	Semiannual
Cyanide	ug/l lbs/day	Grab	Semiannual	Semiannual
Ammonia (expressed) as nitrogen)	ug/l lbs/day	Grab	Semiannual	Semiannual
Toxicity Concentration <sup>7/</sup>	Toxicity units	Grab	Semiannual	Semiannual
Phenolic Compounds (non-chlorinated)	ug/l lbs/day	Grab	Semiannual	Semiannual
Chlorinated Phenolics	ug/l lbs/day	Grab	Semiannual	Semiannual
Aldrin and Dieldrin	ug/l lbs/day	Grab	Semiannual	Semiannual

Parameter	Units	Sample <sup>1/</sup> Type	Minimum Frequency of Analysis	Reporting Frequency
Chlordane and Related Compounds <sup>8/</sup>	ug/l lbs/day	Grab	Semiannual	Semiannual
DDT and Derivatives <sup>9/</sup>	ug/l lbs/day	Grab	Semiannual	Semiannual
Endrin	ug/l lbs/day	Grab	Semiannual	Semiannual
HCH <sup>10/</sup>	ug/l lbs/day	Grab	Semiannual	Semiannual
PCBs	ug/l lbs/day	Grab	Semiannual	Semiannual
Toxaphene	ug/l lbs/day	Grab	Semiannual	Semiannual

## D. METAL CLEANING WASTE MONITORING PROGRAM

Samples of the metal cleaning waste shall be collected in accordance with the following criteria:

Parameter	Units	Sample <sup>11/</sup> Type	Minimum Frequency of Analysis	Reporting Frequency
Flow	MGD	-	<u>12/</u>	Monthly
Total Suspended Solids	mg/l lbs/day	24-hr. composite	<u>12/</u>	Monthly
Grease and Oil	mg/l lbs/day	24-hr. composite	<u>12/</u>	Monthly
Total Copper	mg/l lbs/day	24-hr. composite	<u>12/</u>	Monthly
Total Iron	mg/l lbs/day	24-hr. composite	<u>12/</u>	Monthly
Toxicity	Toxicity Units	Grab	<u>12/</u>	Semiannual

## E. LOW VOLUME WASTE MONITORING PROGRAM

Samples of the low volume waste shall be collected in accordance with the following criteria:

Parameter	Units	Sample <sup>11/</sup> Type	Minimum Frequency of Analysis	Reporting Frequency
Flow	MGD	-	<u>13/</u>	Monthly
Total Suspended Solids	mg/l lbs/day	24-hr. composite	<u>13/</u>	Monthly
Grease and Oil	mg/l lbs/day	24-hr. composite	<u>13/</u>	Monthly
Toxicity	Toxicity Units	Grab	<u>13/</u>	Semiannual

## F. IN-PLANT WASTESTREAM MONITORING PROGRAM

The following shall constitute the in-plant wastestream monitoring program:

Parameter	Units	Sample <sup>14/</sup> Type	Minimum Frequency of Analysis
Arsenic	lbs/day	Grab	Semiannually
Cadmium	lbs/day	Grab	Semiannually
Chromium <sup>6/</sup> (Hexavalent)	lbs/day	Grab	Semiannually
Copper	lbs/day	Grab	Semiannually
Lead	lbs/day	Grab	Semiannually
Mercury	lbs/day	Grab	Semiannually
Nickel	lbs/day	Grab	Semiannually
Silver	lbs/day	Grab	Semiannually
Zinc	lbs/day	Grab	Semiannually
Cyanide	lbs/day	Grab	Semiannually

Parameter	Units	Sample <sup>14/</sup> Type	Minimum Frequency of Analysis
Ammonia	lbs/day	Grab	Semiannually
Phenolic Compounds (non-chlorinated)	lbs/day	Grab	Semiannually
Chlorinated Phenolics	lbs/day	Grab	Semiannually
Aldrin and Dieldren	lbs/day	Grab	Semiannually
Chlordane and Related Compounds <sup>8/</sup>	lbs/day	Grab	Semiannually
DDT and Derivatives <sup>9/</sup>	lbs/day	Grab	Semiannually
Endrin	lbs/day	Grab	Semiannually
HCH <sup>10/</sup>	lbs/day	Grab	Semiannually
PCB	lbs/day	Grab	Semiannually
Toxaphene	lbs/day	Grab	Semiannually

#### G. RECEIVING WATER AND SEDIMENT MONITORING

Receiving water and sediment monitoring shall be conducted as specified below. Sampling, sampling preservation and analysis, when not specified, shall be by methods approved by the Executive Officer. The monitoring program shall be modified by the Executive Officer at any time.

Dispersion Area Stations: There are ten stations located on three transects in the dispersion area. The transects shall be established normal to the shore. Transects and stations shall be located and numbered as follows:

Transect	Description
C	1000 feet upcoast (northerly) of the discharge channel
D	Discharge channel
E	1000 feet downcoast (southerly) of the discharge channel

Station	Transect	Description
C-10	C	521 feet offshore
C-20	C	956 feet offshore
C-30	C	2000 feet offshore
D-10	D	565 feet offshore
D-20	D	1129 feet offshore
D-30	D	1600 feet offshore
D-50	D	2800 feet offshore
E-10	E	652 feet offshore
E-20	E	1086 feet offshore
E-30	E	2000 feet offshore

Reference Area Station: There is one station located on a transect in the reference area. The transect shall be established normal to the shore. The transect and station shall be located and numbered as follows:

Station	Transect	Description
	A	7000 feet upcoast (northerly) of the discharge channel
A-50	A	3400 feet offshore

1. Receiving water monitoring shall be conducted as follows:

Determinations	Units	Stations	Type of Sample	Minimum frequency of analysis
Temperature	°F	C-10 to C-30 D-10 to D-50 E-10 to E-30	Grab	Semiannual
Light Transmittance	meters (Secchi disk)	C-10 to C-30 D-10 to D-50 E-10 to E-30	Grab	Semiannual
pH	Units	C-10 to C-30	Grab	Semiannual
Dissolved Oxygen	mg/l	C-10 to C-30 D-10 to D-50 E-10 to E-30	Grab	Semiannual
Thermal Plume	°F	C-10 to C-30 D-10 to D-50 E-10 to E-30	IR Survey	Semiannual Semiannual Semiannual

2. "Kelp Bed" Monitoring

Kelp bed monitoring is conducted to assess the extent to which the discharge of wastes may affect the areal extent and health of coastal kelp beds.

The discharger shall participate with other ocean dischargers in the San Diego Region in an annual regional kelp bed photographic survey. Kelp beds shall be monitored annually by means of vertical aerial infrared photography to determine the maximum areal extent of the region's coastal kelp beds within the calendar year. Surveys shall be conducted as close as possible to the time when kelp bed canopies cover the greatest area, which ordinarily occurs in August or September in the San Diego Region. The entire San Diego Region coastline, from the International Boundary to the San Diego Region/Santa Ana Region boundary, shall be photographed on the same day. The date of each annual survey shall be approved by Regional Board staff. (Verbal approval will be sufficient, so that the survey will not be delayed while written approval is prepared and distributed.)

The images produced by the surveys shall be presented in the form of a 1:24,000 scale photo-mosaic of the entire San Diego Region coastline. Onshore reference points, locations of all ocean outfalls and diffusers, and the 30-foot (MLLW) and 60-foot (MLLW) depth contours shall be shown.

The areal extent of the various kelp beds photographed in each survey shall be compared to that noted in surveys of previous years. Any significant

losses which persist for more than one year shall be investigated by divers to determine the probable reason for the loss.

#### H. ANNUAL SUMMARY OF MONITORING DATA

By January 30 of each year, the discharger shall submit an annual report to the Executive Officer. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year. In addition, the discharger shall discuss the compliance record and the corrective actions taken or planned which may be needed to bring the discharger into full compliance with the waste discharge requirements of this Order.

#### I. MONITORING REPORT SCHEDULE

Monitoring reports shall be submitted to the Executive Officer according to the dates in the following schedule:

<u>Monitoring Frequency</u>	<u>Report Due</u>
Continuous, daily, weekly, or monthly	By the 30th day of the following month
Semiannually	January 30, July 30
Annually	January 30

Ordered by

Ladin H. Delaney  
Executive Officer  
January 28, 1985



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN DIEGO REGION

Footnote references for waste discharge requirements of Order No. 85-10 (NPDES No. CA0001350) SAN DIEGO GAS & ELECTRIC COMPANY, ENCINA POWER PLANT, SAN DIEGO COUNTY.

1. A grab sample is defined as an individual sample of at least 100 milliliters collected over a period not exceeding 15 minutes. Grab samples shall be collected at times when wastewater flows and characteristics are most demanding on the treatment facilities.
2. Temperature shall be recorded at a minimum frequency of once every two hours. The average and maximum temperature for each 24-hour period shall be reported.
3. Samples shall be collected and analyzed for pH during chlorination, and also during metal cleaning waste discharge into combined discharge.
4. Combined discharge monitoring shall be conducted at a point in the circulating water system downstream of the condenser, downstream of the point(s) at which the component cooling and turbine plant cooling waste streams reenter the circulating water stream, and downstream of the point(s) at which all in-plant waste streams enter the circulating water stream. Combined discharge samples shall be collected immediately following collection of cooling water intake samples.
5. Samples shall be collected and analyzed for total chlorine residual at times when the concentrations of total chlorine residual in the combined discharge are greatest. The times of uninterrupted chlorine discharges on the days the samples are collected and the times at which the samples are collected, shall be reported.
6. The discharger may at their option meet this limitation as a Total Chromium limitation.
7. Samples shall be collected and analyzed for toxicity concentration no less frequently than once each week if, at any time, the toxicity concentration exceeds .83 tu. Collection and analysis of samples for toxicity concentration on a weekly basis shall continue until measured toxicity concentration is less than .83 tu. Toxicity concentration shall be measured in the following manner.

a. Toxicity Concentration (Tc)

Expressed in Toxicity Units (tu)

$$Tc (tu) = \frac{100}{96\text{-hr. TLm\%}}$$

b. Median Tolerance Limit (TLm%)

TLm (percent waste giving 50% survival of test organisms) shall be determined by static or continuous flow bioassay techniques using standard test species. If specific identifiable substances in wastewater can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the marine environment, but not as a result of dilution, the

TLm may be determined after the test samples are adjusted to remove the influence of those substances.

When it is not possible to measure the 96-hr. TLm due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

$$TC \text{ (tu)} = \frac{\log (100 - S)}{1.7}$$

S = Percentage survival in 100% waste. If S > 99, TC shall be reported as zero.

If the calculated value for toxicity concentration in the combined discharge falls below the limit of detection of the test method specified in the Code of Federal Regulations 40 CFR, Part 136, "Guidelines Establishing Test Procedures For Analysis of Pollutants," or by a more sensitive method specified by the State Water Resources Control Board or the Regional Board, the limit of detection shall serve as the limiting effluent concentration. The limit of detection of acute toxicity in standard test methods is less than, or equal to, 0.59 tu.

8. CHLORDANE AND RELATED COMPOUNDS shall mean the sum of chlordane (cis + trans), trans-nonachlor, oxychlordane, heptachlor and heptachlor epoxide.
9. DDT AND DERIVATIVES shall mean the sum of the p, p' and o,p' isomers of DDT, DDD (TDE) and DDe.
10. HCH shall mean the sum of the alpha, beta, gamma (lindane) and delta isomers of hexachlorocyclohexane.
11. A composite sample is defined as a combination of at least eight sample aliquots of at least 100 milliliters each collected at intervals during the operating hours of a facility over a 24-hour period. The composite must be flow proportional. If the time intervals between collection of aliquots are the same, the volume of each aliquot must be directly proportional to the instantaneous flow rate at the time of sampling or to the total volume of flow since collection of the previous aliquot. If the volume of aliquots is the same, the time interval between collection of aliquots must be inversely proportional to the total volume of flow since collection of the previous aliquot. Aliquots may be collected manually or automatically.
12. Samples of metal cleaning waste discharge excepting samples for toxicity shall be collected and analyzed when discharged to the cooling water flow. Samples for toxicity shall be collected semiannually.
13. Samples of low volume waste, excepting samples for toxicity, reverse osmosis brine, ground water seepage, and blowdown, shall be collected and analyzed when discharged to the cooling water flow. Samples for toxicity shall be collected semiannually; and monthly for reverse osmosis brine, ground water seepage, and blowdown.
14. Grab samples of individual in-plant waste streams shall be collected and composited on a flow-weighted basis for analysis. Measurements or estimates of flows of individual in-plant waste streams used as a basis for compositing shall be reported.

SAN DIEGO GAS AND ELECTRIC COMPANY

*file Engineer  
sent 6/18/85*

I hereby submit the \_\_\_\_\_ discharge monitoring  
report(s) for ENCINA POWER PLANT in accordance with  
Waste Discharge Requirements prescribed in Regional Board  
Order No. 85-10.

- I certify under penalty of law that I have personally examined and am familiar with the information submitted in the attached document; and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment."

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Pursuant to Order No. 85-10, Reporting Requirement 12(b), your letter dated 5/1/85 authorizes the following representatives to sign and certify all reports required by this order:

1. GENERAL MANAGER - ELECTRIC PRODUCTION DEPARTMENT
2. POWER PLANT MANAGER



FACILITY: Encina Power Plant

EXACT SAMPLE POINT: \_\_\_\_\_

ORDER NO.: 85-10

REPORT FREQUENCY: Monthly

COLLECTED BY: \_\_\_\_\_

REPORT FOR: \_\_\_\_\_

ANALYZED BY: \_\_\_\_\_

REPORT DUE: \_\_\_\_\_

SIGNED: \_\_\_\_\_

WASTE STREAM: Water Intake  
and Combined Discharge

TITLE: \_\_\_\_\_

PARAMETER: Temperature Difference (Degrees Fahrenheit) = Temperature  
at Combined Discharge Minus Temperature at Water Intake

DATE	COMBINED DISCHARGE		WATER INTAKE		DAILY AVERAGE DIFFERENCE	DAILY MAXIMUM DIFFERENCE
	AVG	MAX	AVG	MAX		
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
AVERAGE						
REQUIT	--	--	--	--	15	25



FACILITY: Encina Power Plant  
ORDER NO.: 85-10  
REPORT FREQUENCY: Monthly  
REPORT FOR: \_\_\_\_\_  
REPORT DUE: \_\_\_\_\_  
REPORT TOPIC: Heat Treatment

EXACT SAMPLE POINT: \_\_\_\_\_  
COLLECTED BY: \_\_\_\_\_  
ANALYZED BY: \_\_\_\_\_  
SIGNED: \_\_\_\_\_  
TITLE: \_\_\_\_\_

DID HEAT TREATMENT OCCUR THIS MONTH? YES \_\_\_\_\_ NO \_\_\_\_\_  
IF YES, COMPLETE THE FOLLOWING:

PARAMETER	UNITS	REQUIREMENT	RESULT
Date/Time Treatment Began	—	—	_____
Date/Time Treatment Ended	—	—	_____
Total Time of Treatment	hours	—	_____
Maximum Inlet Water Temperature (Target Temperature)	degrees F	105	_____
Target Temperature Duration	hours	2	_____

COMPLETE THE FOLLOWING ONLY IF TARGET TEMPERATURE WAS EXCEEDED:

Maximum Temperature Attained	degrees F	—	_____
Degrees Above Target Temperature	degrees F	10	_____
Maximum Temperature Duration	minutes	15	_____





FACILITY: Encina Power Plant  
ORDER NO.: 85-10  
REPORT FREQUENCY: Monthly  
REPORT FOR: \_\_\_\_\_  
REPORT DUE: \_\_\_\_\_  
WASTE STREAM: Combined Discharge,  
Low Volume, & Metal Cleaning Waste

EXACT SAMPLE POINT: \_\_\_\_\_  
COLLECTED BY: \_\_\_\_\_  
ANALYZED BY: \_\_\_\_\_  
SIGNED: \_\_\_\_\_  
TITLE: \_\_\_\_\_

PARAMETER: Flow Rate  
UNITS: Million Gallons per Day (MGD)

DATE	COMBINED DISCHARGE	LOW VOLUME WASTE	METAL CLEANING WASTE
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
AVERAGE			
REQ'T	860.3	2.2665	0.7971











FACILITY: Encina Power Plant  
ORDER NO.: 85-10  
REPORT FREQUENCY: Monthly  
REPORT FOR: \_\_\_\_\_  
REPORT DUE: \_\_\_\_\_  
WASTE STREAM: Low Volume Waste

EXACT SAMPLE POINT: \_\_\_\_\_  
 \_\_\_\_\_  
 COLLECTED BY: \_\_\_\_\_  
 ANALYZED BY: \_\_\_\_\_  
 SIGNED: \_\_\_\_\_  
 TITLE: \_\_\_\_\_

[illegible]





FACILITY: Encina Power Plant  
ORDER NO.: 85-10  
REPORT FREQUENCY: Monthly  
REPORT FOR: \_\_\_\_\_  
REPORT DUE: \_\_\_\_\_  
WASTE STREAM: Metal Cleaning Waste

EXACT SAMPLE POINT: \_\_\_\_\_  
COLLECTED BY: \_\_\_\_\_  
ANALYZED BY: \_\_\_\_\_  
SIGNED: \_\_\_\_\_  
TITLE: \_\_\_\_\_

PARAMETER	UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT VALUE	DATE & TIME COLLECTED
Total Suspended Solids	mg/l	24 Hour	Monthly	30	_____	_____
	lbs/day	Composit	Average	199	_____	_____
	mg/l	24 Hour	Daily	100	_____	_____
	lbs/day	Composit	Maximum	665	_____	_____
Grease and Oil	mg/l	24 Hour	Instant	100	_____	_____
	lbs/day	Composit	Maximum	665	_____	_____
	mg/l	24 Hour	Monthly	15	_____	_____
	lbs/day	Composit	Average	100	_____	_____
Total Copper	mg/l	24 Hour	Daily	20	_____	_____
	lbs/day	Composit	Maximum	133	_____	_____
	mg/l	24 Hour	Instant	20	_____	_____
	lbs/day	Composit	Maximum	133	_____	_____
Total Iron	mg/l	24 Hour	Monthly	1	_____	_____
	lbs/day	Composit	Average	7	_____	_____
	mg/l	24 Hour	Daily	1	_____	_____
	lbs/day	Composit	Maximum	7	_____	_____



FACILITY: Encina Power Plant  
 ORDER NO.: 85-10  
 REPORT FREQUENCY: Semiannual  
 REPORT FOR: \_\_\_\_\_  
 REPORT DUE: \_\_\_\_\_  
 WASTE STREAM: Combined Discharge

EXACT SAMPLE POINT: \_\_\_\_\_  
 COLLECTED BY: \_\_\_\_\_  
 ANALYZED BY: \_\_\_\_\_  
 SIGNED: \_\_\_\_\_  
 TITLE: \_\_\_\_\_

PARAMETER	UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT VALUE	DATE & TIME COLLECTED
Toxicity Concentration	tu	Grab	6-Month Median	0.83		
Arsenic	ug/l	Grab	Instant	1274		
	lbs/day	Grab	Maximum	9141		
Cadmium	ug/l	Grab	Instant	495		
	lbs/day	Grab	Maximum	3552		
Chromium (Hexavalent)	ug/l	Grab	Instant	330		
	lbs/day	Grab	Maximum	2368		
Copper	ug/l	Grab	Instant	794		
	lbs/day	Grab	Maximum	5697		
Lead	ug/l	Grab	Instant	1320		
	lbs/day	Grab	Maximum	9471		
Mercury	ug/l	Grab	Instant	22		
	lbs/day	Grab	Maximum	159		
Nickel	ug/l	Grab	Instant	3300		
	lbs/day	Grab	Maximum	23677		
Silver	ug/l	Grab	Instant	72		
	lbs/day	Grab	Maximum	516		
Zinc	ug/l	Grab	Instant	3176		
	lbs/day	Grab	Maximum	22787		
Cyanide	ug/l	Grab	Instant	825		
	lbs/day	Grab	Maximum	5919		
Ammonia	ug/l	Grab	Instant	99000		
	lbs/day	Grab	Maximum	710312		
Phenolic Compounds	ug/l	Grab	Instant	4950		
	lbs/day	Grab	Maximum	35516		
Chlorinated Phenolics	lbs/day	Grab	Instant	165		
	lbs/day	Grab	Maximum	1184		



FACILITY: Encina Power Plant  
ORDER NO.: 85-10  
REPORT FREQUENCY: Semiannual  
REPORT FOR: \_\_\_\_\_  
REPORT DUE: \_\_\_\_\_  
WASTE STREAM: Combined Discharge

EXACT SAMPLE POINT: \_\_\_\_\_  
 \_\_\_\_\_  
 COLLECTED BY: \_\_\_\_\_  
 ANALYZED BY: \_\_\_\_\_  
 SIGNED: \_\_\_\_\_  
 TITLE: \_\_\_\_\_

[illegible]













FACILITY: Encina Power Plant

ORDER NO.: 85-10

REPORT FREQUENCY: Semiannual

REPORT FOR: \_\_\_\_\_

REPORT DUE: \_\_\_\_\_

WASTE STREAM: In-plant Waste

EXACT SAMPLE POINT: \_\_\_\_\_

COLLECTED BY: \_\_\_\_\_

ANALYZED BY: \_\_\_\_\_

SIGNED: \_\_\_\_\_

TITLE: \_\_\_\_\_

PARAMETER	UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT VALUE	DATE & TIME COLLECTED
Arsenic	lb/day	Grab	6-Month Median	613		
	lb/day	Grab	Daily Maximum	3455		
Cadmium	lb/day	Grab	6-Month Median	355		
	lb/day	Grab	Daily Maximum	1421		
Chromium (Hexavalent)	lb/day	Grab	6-Month Median	237		
	lb/day	Grab	Daily Maximum	947		
Copper	lb/day	Grab	6-Month Median	370		
	lb/day	Grab	Daily Maximum	2145		
Lead	lb/day	Grab	6-Month Median	947		
	lb/day	Grab	Daily Maximum	3788		
Mercury	lb/day	Grab	6-Month Median	10		
	lb/day	Grab	Daily Maximum	60		
Nickel	lb/day	Grab	6-Month Median	2368		
	lb/day	Grab	Daily Maximum	9471		



FACILITY: Encina Power Plant

ORDER NO.: 85-10

REPORT FREQUENCY: Semiannual

REPORT FOR: \_\_\_\_\_

REPORT DUE: \_\_\_\_\_

WASTE STREAM: In-plant Waste

EXACT SAMPLE POINT: \_\_\_\_\_

COLLECTED BY: \_\_\_\_\_

ANALYZED BY: \_\_\_\_\_

SIGNED: \_\_\_\_\_

TITLE: \_\_\_\_\_

PARAMETER	UNITS	SAMPLE TYPE	REQ'T TYPE	REQ'T VALUE	RESULT VALUE	DATE & TIME COLLECTED
Silver	1b/day	Grab	6-Month Median	35		
	1b/day	Grab	Daily Maximum	195		
Zinc	1b/day	Grab	6-Month Median	1478		
	1b/day	Grab	Daily Maximum	8581		
Cyanide	1b/day	Grab	6-Month Median	592		
	1b/day	Grab	Daily Maximum	2368		
Ammonia (expressed as nitrogen)	1b/day	Grab	6-Month Median	71031		
	1b/day	Grab	Daily Maximum	284124		
Phenolic Compounds (non-chlorinated)	1b/day	Grab	6-Month Median	3552		
	1b/day	Grab	Daily Maximum	14206		
Chlorinated Phenolics	1b/day	Grab	6-Month Median	118		
	1b/day	Grab	Daily Maximum	474		
Aldrin and Dieldrin	1b/day	Grab	6-Month Median	0.24		
	1b/day	Grab	Daily Maximum	0.47		









FACILITY: Encina Power Plant

ORDER NO.: 85-10

REPORT FREQUENCY: Annually

REPORT FOR: \_\_\_\_\_

REPORT DUE: \_\_\_\_\_

WASTE STREAM: Bar Rack and Intake Structure

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The discharger shall annually measure bar rack approach velocity and sediment accumulation at the intake structure and shall submit to the Executive Officer an annual summary describing any operational difficulties at the intake structure or the bar rack. The discharger shall also discuss preventive maintenance and corrective measures taken to assure intake water velocities are as close as practical to design levels.

